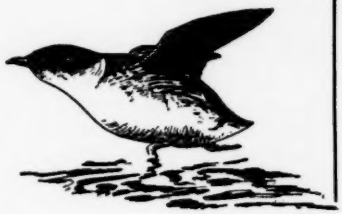
THE MURRELET



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THE BIRDS OBSERVED IN IDAHO BY THE LEWIS AND CLARK EXPEDITION, 1804-1806

M. Jollie

Occasionally the biologist likes to turn historian and unravel some of the little known events of the past. While engaged in compiling a brief history of ornithology in Idaho, the journals of the Lewis and Clark expedition suggested that someone should review and correct the work of Elliot Coues and prepare a list of species observed by the expedition with identifying qoutations, localities, dates and facts of interest. I have taken on only a portion of this project; that part which deals with Idaho. F. S. Hall (1933, *Murrelet*, 14 No. 3:55-75) has written a chapter of the history of Washington from these journals but unfortunately the several errors of Coues are incorporated and the annotations are far from complete.

I have attempted to abstract from the journals all of the mentions of identifiable species seen in Idaho and to construct from these the first real list of Idaho birds. Idaho is well represented in the descriptions of birds and it was here that many of them were seen for the first time. Three species have been described from specimens taken in Idaho by this expedition. There are several short notes in the literature on type localities and places where different species were seen and each incorporates some errors. The source of materials was Thwaites' seven volume reproduction of the "Original Journals of the Lewis and Clark Expedition, 1804-1806," published in 1904-1905.

By way of introduction it should be mentioned that both the leaders of the expedition exchanged notes and frequently their entries are exactly the same. Generally speaking Lewis' notes are the more complete but frequently the entries of Clark are better worded and imply more knowledge of the subject. To attempt to ascertain the source of each idea is impossible although Lewis was apparently the more active in observing wildlife.

The stays of the explorers in Idaho were not happy ones and this may account for the dearth of observations. In the fall of 1805 hunger and sickness sapped the vitality of the explorers while in the spring of 1806 hunger and anxiety to be on their way distracted them. The weather at the times of their visits was certainly unseasonable. Snows hampered them along the Lolo Trail in the middle of September. At the present time it is the last of October or early November that snows of any consequence fall. In May, upon their return to Idaho, Camas Prairie was covered with snow which did not disappear until late in the month (shoe deep on May 17). At the present time, although there may be a heavy unseasonal fall at this time it does not last more than a day or two. Usually by the end of March the lower elevations are free of snow. When crossing the Lolo Trail at the end of June the expedition found as much as seven feet of snow in many places and estimated that during the winter the snow was fifteen feet deep.

The vegetation of the Clearwater region as remarked by Lewis and Clark is much the same today. Some of the yellow pine at the edges of the prairies has been cut and the grasslands and marginal areas plowed. Logging has affected large areas of timber but the general aspect would still pass for the period of 1805-1806. The wildlife is much the same as then. Certain of the birds are no longer present (at least not breeding—double-crested cormorant, great gray owl, sandhill crane, bald eagle), and certainly the grizzly bear is no more, but most species are as they were then and possibly some have increased as a result of the advent of man.

Double-crested Cormorant *(Phalacrocorax auritus)*—"the cormorant is a large black duck which feeds on fish; I perceive no difference between it and those found in the Potomac and other rivers on the Atlantic Coast. Though I

do not recollect seeing those on the Atlantic so high up the rivers as those found here. We first met with them on the Kooskooska at the entrance of Chopunnish river." (Sept. 26-Oct. 8, 1805, along the Clearwater below the north fork of the Clearwater) Lewis, IV:141-142, March 7, 1806, while at Fort Clatsop.

Canada Goose *(Branta canadensis)*—This species was killed for food on the Salmon River near the present town of Salmon on August 23 and 31, 1805. Clark, III:25, 49.

Shoveler *(Anas clypeata)*—A male was killed by one of the hunters, probably on Camas Prairie, May 8, 1806. Lewis, V:3.

American Mersanser *(Mergus merganser americanus)*—"The read headed fishing duck is common to every part of the river and are found as well in the Rocky Mountains as elsewhere; in short this was the only duck we saw on the waters of the Columbia within the mountains." This statement would appear to mean the Kooskooskee or Clearwater River in Idaho. Lewis, IV:148-149.

Turkey Vulture *(Cathartes aura teter)*—Lewis clearly established the identity of this species when he says (April 9, 1806, IV:260, while coming up the Columbia River) the "turkey buzzard . . . of the species common to the United States which are the first we have seen this side of the rocky mountains." While at Weippe Prairie on June 13, 1806, Lewis says (V:133 and Clark repeats the statment V:133) "buzzards had eaten up a deer which they (the hunters) had killed, butchered and hung up this morning."

Bald Eagle *(Haliaeetus leucocephalus)*—There is no reference to the adult of this species while in Idaho although Lewis (V:119) records on May 18, 1806, while the party was camped at Kamiah, that one of the hunters had "taken the part of a salmon from an Eagle . . .". It seems quite probable that this was a bald eagle. On June 9, 1806, Lewis notes (V:119, while at Kamiah) "The Cutnose or Neeshneeparkkeeook borrowed a horse and rode down the Kooskooske River a few miles this morning in quest of some young eagles which he intends raising for the benefit of their feathers; he returned soon after with a pair of young Eagles of the grey kind; they were nearly grown and pretty well feathered." Lewis called the immature golden eagle the callumet bird and seemed to be well acquainted with it and the use of its feathers by the Indians. While at Fort Clatsop both explorers indicated that they had not seen the golden eagle west of the rockies but they had seen the gray and bald eagles.

Blue Grouse *(Dendragopus obscurus)*—Coues (IV:129) erroneously identified the large black and white pheasant as the male Franklin grouse whereas Lewis and Clark clearly indicate that this bird is the blue grouse. On September 20, 1805, Lewis writes (III:76) there are "Three species of Phesants, a large black species, with some white feathers irregularly scattered on the breast and neck and belly—a smaller kind of a dark uniform colour with a red stripe above the eye, and a brown and yellow species that a gooddeel resembles the phesant common to the Atlantic States." Both Lewis and Clark in their description of this species, prepared while they were camped at Fort Clatsop (Clark IV:126 and Lewis IV:128), indicated it had 18 tail feathers and vermillion above the eye, points which are in error and probably due to faulty memory. They did correctly indicate the bare areas on the sides of the neck for the vocal sacks. These are lacking in the Franklin grouse. To set things aright Lewis says (June 26, 1806, V:161) "on our way up this mountain about the border of the snowey region we killed 2 of the small black pheasant and a female of the large dommanicker or speckled pheasant, the former have 16 f(e)athers in their tail and the latter 20 while the common pheasant (ruffed grouse) have only 18." (Clark repeats this V:163).

Franklin or Spruce Grouse *(Canachites canadensis franklinii)*—Lewis and Clark have adequately described this species although one is never quite

sure that the two sexes were properly associated. Lewis on September 20, 1805 (III:76) says in describing three species of "phesants" that there is "a smaller kind of a dark uniform colour with a red stripe above the eye, . . .". Later while at Fort Clatsop he says (IV:128) "The small speckled pheasant found in the same country with the above described (blue grouse), differs from it only in point of size and somewhat in colour. It is scarcely half the size of the other; associated in much larger flocks and is very gentle." On page 129 he adds that it is "smaller than our pheasant" refering to the eastern species, the ruffed grouse. On June 16, 1806 (V:138) he says "I killed a small brown pheasant today (the female), it feeds on the tender leaves and buds of the fir and pine (above Weippe on the Lolo Trail). On June 26 (V:161) he pointed out this species has only 16 tail feathers in contract to the other species of "phesants." On June 28 (:168) while on the eastern end of the Lolo Trail, he notes that "We killed a small black pheasant; this bird is generally found in the snowey region of the mountains and feeds on the leaves of the pine and fir." This species is identified by several names by Lewis and Clark; they are: small speckled pheasant, small black pheasant, small brown pheasant, and small pheasant.

Ruffed Grouse *(Bonasa umbellus)*—This species is only indirectly referred to but fairly well identified. Lewis on September 20, 1805 (III:76), in describing three species of "phesants", says "and a brown and yellow species that a gooddeel resembles the phesant common to the Atlantic States." This description might of course be ascribed to the female Franklin grouse but that species is identified by the "red stripe above the eye". Lewis (IV:128) and Clark (IV:126) identify this species as the reddish brown pheasant common to our country as compared with the blue and Franklin grouse. The ruff on the neck is referred to. On June 26 Lewis (V:161) points out that this species "the common pheasant" has 18 tail feathers in contrast to 20 for the blue and 16 for the Franklin grouse (a count which checks with specimens).

Sage Hen *(Centrocercus urophasianus)*—This species was observed in Idaho in the Lemhi Valley and in the vicinity of the town of Salmon (Clark II:386 and III:33). It is called by both authors by many different names at different times: phesant or pheasant, prarie fowl, prairie cock, heath hen, heath cock, cock of the mountains and cock of the plains. The species is more extensively described while at Fort Clatsop (IV:123-124, Clark IV:125-126, March 2, 1806).

Sandhill Crane *(Grus canadensis tabida)*—This crane was apparently quite common on the Clearwater River when the expedition arrived at their camp on the east shore, 1½ miles north of the mouth of Lawyer Canyon on May 14, 1806. On May 20th Lewis says (VI:217) "a nest of the large blue or sand hill crain was found by one of our hunters.the young were in the act of leaving the shell." On May 21st Clark says (V:54—Lewis wrote the same V:53) "one of the men brought me a young sandhill crain which was about 5 or 6 days old it was a yellowish brown colour, about the size of a partridge (a quail). Those (these) crains are very abundant in every part of this country in pars of two, and sometimes three together." Later, on June 10, 1806, both (Lewis, V:122 and Clark V:123) "saw many sand hill crains and some ducks in the slashey glades about this place (Weippe Prairie)."

Mourning Dove *(Zenaidura macroura marginella)*—Clark noted this dove (pigeon) on the Salmon River (vicinity of present town of Salmon), August 26, 1805 (III:44). Lewis (VI:217) reports "the dove is cooing" on May 27, 1806, while camped on the Clearwater near Kamiah.

Great-horned Owl *(Bubo virginianus lagophonus)*—Lewis says (IV:129-130) "we also met with the large hooting owl under the Rocky Mountain on the Kooskoskee river. it did not appear to differ materially from those of our country. I think it's colours reather deeper and brighter than with us, partic-

ularly the redish brown. it is the same size and form." Again on May 28, 1806, Lewis says (V:76) "our hunters brought in a large hooting Owl which differs considerably from those of the Atlantic states which are also common here (Kamiah area)."

Great Gray Owl *(Strix nebulosa nebulosa)*—Both Lewis and Clark described this species, a specimen having been taken near their Kamiah camp on the Clearwater. That of Clark is shorter but sufficient to identify this bird (May 23, 1806, V:59-60). He says "our hunters brought us a large hooting owl which differ from those of the Atlantic states. The plumage of this owl is an uniform mixture of dark yellowish brown and white, in which the dark brown predominates. it's colour may be properly termed a dark Iron gray. the plumage is very long and remarkly silky and soft. those have not the long feathers on the head which gives it the appearance of ears or horns. remarkably large eyes." Lewis (V:76-77) describes the eye, bill and claws.

Pileated Woodpecker *(Dryocopus pileatus picinus)*—The logcock is mentioned as observed on the Lolo Trial above Weippe on June 15, 1806 (Lewis V:136).

Lewis Woodpecker *(Asyndesmus lewis)*—This species was described by Alexander Wilson from specimens brought back by Lewis and Clark. Originally the type locality was given as "Montana about lat. 46° N." Coues attempted to establish the type description as that of Gass whose journal was published in 1807 (and subsequent editions), thus four years before Wilson's description. Gass gave the locality as the "headwaters of Clearwater River, in the Bitter Root Mountains Idaho;. . ." the date of the entry is June 12, 1806 (Coues, 1892,, *Auk* 9 No. 4:394). Clark (V:43) indicates that the first specimen of this woodpecker was obtained (and saved?) on May 16, 1806, while the expedition was camped just below Kamiah on the Clearwater. He wrote "Shields rode out and hunted in the morning without suckess he returned at 11 A. M. having killed only a black wood pecker with a red breast as described hereafter." This species is described in detail on May 27, 1806 (Lewis V:70-71, Clark V:74). This species was first recorded for Idaho on September 20, 1805, by Lewis (III:76). It was observed on the Lolo Trail above Weippe.

Eastern Kingbird *(Tyrannus tyrannus)*—Lewis on June 15, 1806 (V: 136) mentions the "bee-martin" seen on the Lolo Trail above Weippe.

Canada Jay *(Perisoreus canadensis bicolor)*—This jay was first observed in Idaho. Clark refers to this species as a small white headed hawk. Lewis says under date of September 20, 1805 (III:76, while on the Lolo Trail above Weippe), "another bird of very similar genus (to Steller jay), the note resembling the mewing of the cat, with a white head and a light blue colour is also common, . . ." The species was described in full by Clark on December 18, 1805 (VI:135-136), while at Fort Clatsop.

Steller Jay *(Cyanocitta stelleri annectens)*—Lewis and Clark reported this species September 19 and 20, 1805, on the west end of the Lolo Trail (above Weippe). Clark says (September 19, III:74) that this is a "blue jay" while Lewis (September 20, III:75-76) describes it as "a blue coloured haulk or vulter kind." It is described in full by Lewis on May 26, 1805—probably appended at a later date as it refers to its distribution west of the Rockies.

Magpie *(Pica pica hudsonia)*—Lewis noted (VI:217) on May 20, 1806, "the young of the partycoloured corvus begin to fly." This observation was made at the Kamiah camp where this species is still common. The name partycoloured corvus is indicated as refering to this species by Lewis (IV:290).

Raven *(Corvus corax)*—The raven was observed along the Lolo Trail and recorded September 19 and 20, 1805 (Clark, III:74, Lewis III:76). Lewis noted (III:83) on September 22, 1805 (just before reaching Weippe

Prairie), "Fields also killed a crow (while the party was stopped for lunch)." It is unlikely that a crow would be encountered in this area where ravens are common.

Clark Nutcracker *(Nucifraga columbiana)*—The nutcracker was described by Alexander Wilson from a specimen brought back by Lewis and Clark. Wilson (Wilson and Bonaparte, 1832, *American Ornithology*, vol. 1:319-320) gave the type locality as "Shores of the Columbia River between The Dalles and the mouth." This locality was based upon "conversation with different individuals of the party . . ." He says further, "I understand that this bird inhabits the shores of the Columbia and the adjacent country in great numbers, frequenting the rivers and sea-shore, probably feeding on fish:. . ." This is a quite inaccurate picture and it should be pointed out that both Lewis and Clark definitely state (V:75, V:82) that this species is "found only in the rocky mountains and their neighborhood." Stone (1915, *Auk*, 32 No. 3:371-372) correctly stated that the type specimen was collected at the Kamiah camp and that this should be the type locality. Davis and Stevenson (1934, *Condor*, 36 No. 4:162) have repeated Stone's remarks but have left the impression that this species was observed first in Montana. Clark was the first to observe this bird. He encountered it on the Salmon River near the mouth of the North Fork (about 20 mi. NNW. of present town of Salmon). He says (August 22, 1805, III:17) "I saw to day (a) Bird of the woodpecker kind which fed on Pine burs its Bill and tale white the wings black every other part of a light brown and about the size of a robin." Lewis (III:15) was camped on the Beaverhead at the time and repeats Clark's description. Later Lewis wrote (May 28, 1806, V:75) "I first met with this bird above the three forks of the Missouri . . ." This was written most likely in error (from memory). Clark, not to be outdone by Lewis, wrote (V:82-83) "I first met with (this) bird on Jeffersons River, and saw them on the hights of the rocky Mountains, but never before had an opportunity of examineing them closely." Both Lewis and Clark described this species in detail from the specimens taken near Kamiah (Lewis, V:75-76, Clark, V:82-83).

Varied Thrush *(Ixoreus naevius)*—This species was first observed according to Lewis (III:75) on the September 2, 1805, on the upper west fork of Fish Creek (North Fork of Salmon). Lewis (III:75) described this species in detail on September 20, 1805, when on the western end of the Lolo Trail (above Weippe).

Western Tanager *(Piranga ludoviciana)* — The type specimen of this species was collected in the vicinity of the Kamiah camp as indicated by Davis and Stevenson (1934, *Condor*, 36 No. 4:163). Lewis and Clark described this species in detail under the dates June 6 (V:111, Lewis) and June 7, 1806 (V:116, Clark).

In addition to these species definitely identifiable there are mentions of others, the exact species can only be guessed at. Under date of May 18, 1806 (V:48) Clark mentions a large hawk brought in by one of the hunters. The commonest such hawk in the Kamiah area is the red-tail *(Buteo jamaicensis)*. The Swainson hawk would be accidental at this time and in this area. On June 15, 1806 (V:136) Lewis reports the nest of a hummingbird. This probably was the rufous hummer *(Selasphorus rufus)* although it might also have been the calliope *(Stellula calliope)*. On this same date Lewis mentions the "speckled woodpecked." The commonest such species is the hairy woodpecker *(Dendrocopos villosus)*. It may have been a red-naped sapsucker *(Sphyrapicus varius nuchalis)*.

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BIRDS OF LAIRD PARK, LATAH COUNTY, IDAHO

By Jared Verner

During the summers of 1951 and 1952, while serving as Nature Director in a Boy Scout Camp, the author was able to keep records on the birds of the camp and its surrounding area. At the suggestion of Thomas D. Burleigh, these notes, which supplement the work of David W. Johnston, have been offered for publication.

The camp is located four miles northeast of Harvard, Idaho, near the Saint Joe National Forest at an elevation of 2500 feet. The following annotated list contains sixty-two species and was taken over forty acres of woods and meadow situated for the most part along the south side of the Palouse River. The woods consist largely of firs and pines with a few larch, cedar, and engelmann spruce. The meadow, including about five acres, supports chiefly alder, willow, and red-stemmed dogwood, which thrive in parts of the meadow that are kept moist all summer by a high water table. This artificial lake is made each summer but is necessarily destroyed in the fall to avoid washing away the camp during the spring runoff. Since the lake is there for such a short time, conditions suitable for the nesting of waterfowl do not have time to develop. The country between the camp and Harvard is nearly all under cultivitation; probably some of the birds seen at camp more frequently nest in this area and are merely wanderers. Also, four miles east of camp, there is a mountainous area with elevations up to 5000 feet where a few higher altitude breeders have been recorded. In addition to the summer count, some records have been taken in the spring and fall of the same years. All sub-specific identification is based on specimens collected in areas very near and very much like that of the camp.

MALLARD *(Anas platyrhynchos platyrhynchos Linnaeus)*. One pair was seen feeding on a flooded flat April 13, 1952. Several flocks of ten to fifteen were seen in flight during the first week of August, 1952.

AMERICAN MERGANSER *(Mergus merganser americanus* Cassin). This bird apparently breeds farther down the river. A brood of nine was recorded on August 7, 1951, and another of fifteen on June 23, 1952.

WESTERN RED-TAILED HAWK *(Buteo jamaicensis calurus* Cassin). Seen almost daily throughout both summers; no doubt this species breeds along the higher ridges.

MARSH HAWK *(Circus cyanius hudsonius* (Linnaeus)). Uncommon. Seen on August 8, 1951, and July 7, 1952.

EASTERN SPARROW HAWK *(Falco sparverius sparverius* Linnaeus). Uncommon. A single bird was seen flying down the valley on June 29, 1952.

RUFFED GROUSE *(Bonasa umbellusiphaia* Linnaeus). A nest with eight eggs already hatched was found on June 21, 1951; and a brood of at least six nearly grown chicks was flushed on July 18, 1952.

KILLDEER *(Charadrius vociferous vociferous* Linnaeus). Rare. One was seen flying overhead on July 18, 1952; it probably nests farther down the valley where there are more open fields.

SPOTTED SANDPIPER *(Actitis macularia* Linnaeus). Common breeder. A downy young was found on a sandbar July 2, 1952, after much searching; and four young were seen in the same spot on July 5, 1951. Other young were seen farther up the river in July, 1952.

WESTERN MOURNING DOVE *(Zenaidura macroura marginella* (Woodhouse)). Very common. Seen daily throughout both summers.

NORTHWESTERN HORNED OWL *(Bubo virginianus lagophonus* (Oberholser)). Often heard at night during the latter part of July and early August, 1952; seen the morning of August 4, 1952.

PACIFIC NIGHTHAWK *(Chordeiles minor hesperis* Grinnell). Rare. Two birds were seen very high on the evening of July 2, 1952.

RUFOUS HUMMINGBIRD *(Selasphorus rufus* (Gmelin)). Very common summer resident; although no evidence of breeding was found.

WESTERN BELTED KINGFISHER *(Megaceryle alcyon caurina* (Grinnell)). Common. Three young were seen in August 1, 1952. This species could be seen anytime sitting above the river watching for fish.

RED-SHAFTED FLICKER *(Colaptes cafer collaris* Vigors). Common summer resident, seen most along the ridge on the south of camp.

WESTERN PILEATED WOODPECKER *(Hylatomus pileatus picinus* (Bangs)). Uncommon in the immediate camp area. One was seen on July 2, 1951.

RED-NAPED SAPSUCKER *(Sphyrapicus varius nuchalis* Baird). One was seen entering a hole about fifty feet up in a dead grand fir *(Abies grandis)* snag on July 2, 1951. Young were seen peering from a hole about the same height in another tree on July 2, 1952.

ROCKY MOUNTAIN HAIRY WOODPECKER *(Dendrocopos villosus monticola* Anthony). Fairly common. Seen quite often during both summers feeding among the dead snags around camp.

ARCTIC THREE-TOED WOODPECKER *(Picoides arcticus* (Swainson)). One pair was seen on three different occasions: April 15, 1951, August 8, 1951, and June 23, 1952.

EASTERN KINGBIRD *(Tyrannus tyrannus* (Linnaeus)). Uncommon. This bird breeds in the valleys west of camp and has been recorded at camp twice—July 23, 1951, and July 30, 1952.

ALDER FLYCATCHER *(Empidonax traillii brewsteri* Oberholser). This species was positively identified by the location of two nests found. One containing four well-developed young was found four feet off the ground in a ninebark *(Opulaster pauciflorus)* on August 7, 1951; and another containing three newly-hatched young was found three feet off the ground in a hawthorn *(Cretaegus brevispina)* on July 17, 1952.

HAMMOND'S FLYCATCHER *(Empidonax hammondii)).* This species was also identified by the location of a nest. One was observed incubating on a nest about seventy-five feet up in a dead grand fir *(Abies grandis)* on July 1, 1952; she was seen feeding the young on July 9.

OLIVE-SIDED FLYCATCHER *(Nuttalornis borealis* (Swainson)). Uncommon. A single bird was seen on July 11, 1952; several days later they were quite common on one ridge south of camp, which may indicate that a brood left the nest.

VIOLET-GREEN SWALLOW *(Tachycineta thalassina lepida* Mearns). Very common up to the middle of July after which they were no longer seen at camp.

RONGH-WINGED SWALLOW *(Stelgidopteryx ruficollis serripennis* (Audubon)). Common until the latter part of July; the latest date of record is July 22, 1952. One was seen entering a hole in the bank three feet above the river on July 1, 1951, but it was impossible to tell if young were present.

BARN SWALLOW *(Hirundo rustica erythrogaster* (Linnaeus)). Seen occasionally during June, 1952, but this species left before July.

NORTHERN CLIFF SWALLOW *(Petrochelidon pyrronota albifrons* (Rafinesque)). Seen often during late June, 1952; then this species too, disappeared. It was seen occasionally near Harvard during July.

CANADA JAY *(Perisoreus canadensis bicolor* A. H. Miller). Very common on higher ridges. Five birds were seen together on July 26, 1952.

STELLAR'S JAY *(Cyanocitta stelleri annectens* (Baird)). Common daily throughout both summers. A group of five or more was seen on July 26, 1952.

RAVEN *(Corvus corax sinuatus* Linnaeus). On July 5, 1951, twelve of these birds were seen very early in the morning, and they were seen several times later in the summer; however, the only record for 1952 was on July 31 when three were seen.

BLACK-CAPPED CHICKADEE *(Parus atricapillus fortuitus* (Davison and Bowles)). Seen throughout the summer; however, no actual evidence of breeding was found.

CHESTNUT-BACKED CHICKADEE *(Parus rufescens rufescens* Townsend). This species probably breeds higher in the mountains. A flock of at least fifteen, probably including two or three families, was seen at camp on August 5, 1952.

RED-BREASTED NUTHATCH *(Sitta canadensis* Linnaeus). Common resident. This bird was seen daily all summer; however, no breeding records were taken.

NORTHWESTERN CREEPER *(Certhia familaris caurina* Aldrich). Seen occasionaly during the summer, but the bird is not abundant.

WESTERN HOUSE WREN *(Troglodytes aedon parkmanii* Audubon). Common breeder. Two nests were found on July 1, 1951; one containing four eggs was located eight feet off the ground under the eave of a building, and another with four young was four feet up on a window ledge.

WESTERN WINTER WREN *(Troglodytes troglodytes pacificus* Baird). First seen on April 13, 1952; a single pair was seen several times during the summer.

WESTERN CATBIRD *(Dumetella carolinensis ruficrissa* Aldrich). One of the most common summer residents. One young was seen on August 8, 1952.

WESTERN ROBIN *(Turdus migratorius propinquus* Ridgway). Most abundant breeder. A very interesting record was that of a pair of birds that used a nest which had been occupied

the previous year. The records were taken on June 27, 1951, and July 1, 1952. In both cases the nest contained four young. It was located twelve feet off the ground in a hawthorn *(Cretaegus brevispina)* and had, of course, been repaired by the second pair.

NORTHERN VARIED THRUSH *(Ixoreus naevius meruloides* (Swainson)). A probable breeder on the mountains near camp. One was seen at camp on April 13, 1952, and another was recorded four miles east of camp on July 3, 1952.

WESTERN OLIVE-BACKED THRUSH *(Hyclocichla ustulata almae* Oberholser). Common summer resident. One nest containing three eggs was found seven feet above the ground in an alder *(Alnus tenulfolia)* on July 14 ,1951.

TOWNSEND'S SOLITAIRE *(Myadestes townsendi* (Audubon)). A breeder in the mountains near camp. A nest containing three eggs was found three feet above the road in the bank on July 3, 1951.

WESTERN GOLDEN-CROWNED KINGLET *(Regulus satrapa olivaceus* Baird). One was recorded on April 13, 1952, and another was seen at the head of Strychnine Creek five miles from camp on August 1, 1952.

WESTERN RUBY-CROWNED KINGLET *(Regulus calendula cineraceus* Grinnell). Common summer resident. One young was seen on July 29, 1952.

CEDAR WAXWING *(Bombycilla cedrorum* Viellot). Common. One pair was seen gathering nesting material on July 18, 1952.

RED-EYED VIREO *(Vireo olivaceus* (Linnaeus)). Uncommon. A single bird was seen on August 8, 1951.

WARBLING VIREO *(Vireo gilvus* (Viellot)). Common breeder. Two nests were found on July 1, 1951; each contained four eggs and was located about five feet off the ground in an alder *(Aluns tenulfolia)*.

ROCKY MOUNTAIN YELLOW WARBLER *(Dendroica petechia morcomi* Coale). Common breeder. An adult was seen feeding young on July 3, 1952, and a nest containing four young that left the following day was found on July 18, 1952.

AUDUBON'S WARBLER *(Dendroica auduboni auduboni* (Townsend)). Common all summer. Very well developed young were seen on August 8, 1951.

TOWNSEND'S WARBLER *(Dendroica townsendi* (Townsend)). This species doubtless breeds in this area, but nothing positive was found. Records were made on June 29, 1952, July 25, 1951, and August 1, 1952.

MACGILLIVRAY'S WARBLER *(Oporornis tolmiei* (Townsend)). Common breeder. Young just out of the nest were seen with adults on July 1 and 2, 1952.

AMERICAN REDSTART *(Setophaga ruticilla* (Linnaeus)). Uncommon breeder. A nest thirteen feet up in an alder *(Alnus tenulfolia)*, which contained three young that left the nest in a week, was found on July 1, 1952. The male of the pair was apparently a first year bird since he had not yet attained adult plumage. Another pair, the male with adult plumage, was seen at times; but no nest could be located.

BREWER'S BLACKBIRD *(Euphagus cyanocephalus* (Wagler)). Uncommon. A flock of about twenty-five birds was seen on June 22, 1952. This species breeds nearer Harvard.

WESTERN TANAGER *(Piranga ludoviciana* (Wilson)). Common breeder. The bird was seen daily all summer, and young were seen on July 18, 1952.

ROCKY MOUNTAIN GROSBEAK *(Pheucticus melanocephalus melancephalus* (Swainson)). Fairly common summer resident. One nest containing three eggs was found in an alder *(Alnus tenulfolia)* fifteen feet off the ground on June 21, 1951, and another that could not be reached was found on July 1, 1952. Both nests were flimsily constructed with pine needles, and it was possible to see through them.

LAZULI BUNTING *(Passerina amoena* (Say)). Uncommon. Records were taken on June 23, July 1, and August 5, 1952.

WESTERN EVENING GROSBEAK *(Hesperiphona vespertina brooksi* Grinnell)). Common throughout the summer of 1951, but it was recorded only once in 1952 when a flock of five or more was seen on July 28.

WESTERN PINE SISKIN *(Spinus pinus vagrans* Aldrich). Common summer resident. Although this species was very abundant, no breeding records were obtained.

PALE GOLDFINCH *(Spinus tristis pallidus* Mearns). Uncommon. A single bird was seen on July 7, 1952.

BENDIRE'S CROSSBILL *(Loxia curvirostra bendirei* Ridgeway). Common throughout the summer; although no definite breeding records were taken.

MONTANA JUNCO *(Junco oreganus montanus* Ridgeway). Common breeder. Two nests were found only fifty yards from each other in an earth bank three feet above the road. Each contained four eggs that hatched one day apart, July 15 and 16, 1952.

WESTERN CHIPPING SPARROW *(Spizella passerina arizonae* Coues). Uncommon. One pair was seen occasionally during the summer of 1952.

SLATE-COLORED FOX SPARROW *(Passerella iliaca schistacea* Baird.) Uncommon, but a possible breeder. The bird was seen several times in 1951, but only once, on July 9, in 1952.

SONG SPARROW *(Melospiza melodia* (Wilson)). Common breeder. One bob-tailed young was seen on July 1, 1952, and a nest containing three fresh eggs was found three feet over the lake in a hawthorn *(Cretaegus brevispina)* on July 17, 1952.—MOSCOW, IDAHO.

GENERAL NOTES

A Mole from Idaho

There is no previous record of a mole for the state of Idaho.

Two specimens of the Pacific mole *(Scapanus orarius)* have been collected by me in Cambridge, Washington County, Idaho. Evidence of mole activity has been found over many square miles in this county. They have been known here for at least forty years, according to Mrs. C. H. Wells, the wife of a Washington County rancher.

Cambridge is just east of the Snake River which has previously been considered the biologic boundary for *Scapanus orarius* in adjoining Oregon. (Bailey, Vernon, 1936. *The Mammals and Life Zones of Oregon.* North American Fauna, No. 55).

Mole evidence has been found in the sagebrush-grass, bunch-grass, yellow pine, and Douglas fir zones. Soils both coarse and fine have been formed, for the most part, *in situ* from Columbia River basalt. The creek bottoms have an accumulation of deep alluvial soil.

Climatic conditions are taken from *Climate and Man*, 1941 Yearbook of Agriculture. Over a 34 year period the average temperatures for January and July were 21.5° and 73.8° degrees Fahrenheit, respectively. The maximum temperature was 117° F. and the minimum -35° F. The average annual rainfall for a period of thirty-eight years was 18.18 inches.

One specimen is in the Department of Biological Sciences, University of Idaho, Moscow, Idaho, Catalogue No. 1441. The other is in the U. S. National Museum, Washington, D.C., Catalogue No. 295148.—EDWIN B. CASWELL, *Idaho Cooperative Wildlife Research Unit, University of Idaho, Moscow, Idaho.*

Sight Record of the Tree Sparrow at Seattle

A flock of four Western Tree Sparrows *(Spizella arborea)*, two adults and two immatures, was seen at Newport dock on the east side of Lake Washington on December 28, 1952. The birds occupied a bunch of willows and were viewed at a distance of fifty feet with a pair of Zeiss binoculars of eight power strength.—WALTER M. HAGENSTEIN, *Medina, Washington.*

Cottontail Rabbit in British Columbia

During the past two years reports have been current that small "rabbits" have been seen on numerous occasions near Huntingdon, B. C., but it was not until January 4, 1952, that one of these animals was collected by my son Alan who had seen the creature near the hedge by the barn where it had burrowed under some hay in the shed. This specimen proved to be a half grown female cottontail.

Later on an adult male was found dead on the highway near Langley Prairie and was given to me by Mr. G. Philipsson on March 20, 1952.

On August 12, 1952 Alan secured an adult female near the Farmer Road hedge. These and a few other cottontails had been seen in the general neighborhood and some time previously the writer saw one of these cottontails running across the Farmer Road in the early afternoon.

Dr. E. Raymond Hall of the University of Kansas very kindly examined these specimens and advised that they are *Sylvilagus floridanus* and that this race has been introduced into the State of Washington. In the "Mammals of Washington", (University of Kansas Publication, 1948) Dalquest mentions that at least two subspecies of *Floridanus (mearnsi and alacer)* have been intro-

duced into Washington in the following counties:

Whitman County	1926-1927
Clark County	1933
King County	1927
Island County	1931

At the present time this cottontail seems to be fairly well established about Huntingdon in the extreme southwestern corner of British Columbia, but its northward advance appears to be very gradual.—KENNETH RACEY, *Vancouver, B. C., February 25, 1953.*

Branta canadensis occidentalis in the Willamette Valley Oregon

During recent years several hunters have inquired regarding the "big dark colored honkers" they either have shot or seen in the Willamette Valley, from north to Sauvie's Island in the Columbia River. The species is represented by specimens taken May 6, 1937 and November 20, 1942, in the bird collection at Oregon State College, Corvallis, Oregon. A captive bird was seen by me, tethered on a lawn in Corvallis on December 9, 1939. A specimen in my collection was taken near McMinnville by R. G. Johnson on November 15, 1931, who gave it to me the day after it was shot.

On November 22, 1952 a hunter at Basket Slough, near Rickreal, Polk County, Oregon shot seven of these geese out of one flock. As this was an "over-limit" bag of geese the hunter was arrested and the birds confiscated. Six of these, four adults and two immature birds, were given me by the Oregon State Game Commission to preserve as study skins. The seventh bird is being mounted for the collection of the Game Commission.

This coastal species has been recognized as fairly common along the ocean beaches the entire length of Oregon for the past 40 years during the winter months, but is either becoming better known to hunters, or is actually increasing in numbers during the fall and winter months in the Willamette and lower Columbia River Valleys.—*Stanley G. Jewett, Portland, March 2, 1953.*

Synatomys in Idaho and Northeastern Washington

During a collecting trip based at Priest Lake, Idaho, four specimens of *Synatomys borealis* were collected. The specimens are as follows, catalogued in the collection of the Puget Sound Museum of Natural History, College of Puget Sound:

3752 imm. male Sema meadows, el. 3000', Pend Orielle Co., Wn., Aug. 4, 1952

3753 imm. female Sema meadows, el. 3000', Pend Oreille Co., Wn., Aug. 5, 1952

3754 ad. female Gold Peak Road, el. 4200', Bonner Co., Idaho, Aug. 8, 1952

3755 ad. male Gold Peak Road, el. 4200', Bonner Co., Idaho, Aug. 8, 1952

Specimens No. 3752 and 3753 were collected in the same area as *Microtus pennsylvanicus*, at the edge of open beaver meadows and are easily confused with immature individuals of this species. Nos. 3754 and 3755 were collected in a small bog along a stream in the forest. The latter were breeding adults. Further material will be obtained before comparative studies are done.

This is the first record of *Synatomys* for Idaho and undoubtedly a new subspecies (cf. *chapmani* J. A. Allen) for Washington. There are no close records from British Columbia to our knowledge.—MURRAY L. JOHNSON AND PHILLIP W. CHENEY, *Puget Sound Museum of Natural History, College of Puget Sound, Tacoma 6, Washington.*

Mockingbird (Mimus polyglottos) in Southeastern Alaska

On the morning of July 20, 1952 I visited the abandoned marble quarry near the mouth of Tokeen Bay. It is located on a small island across the bay from Kosciusko Island, which is on the western side of Prince of Wales Island. I was looking especially for birds and had an excellent pair of 7x35 binoculars but no gun.

The mockingbird was very cooperative, sitting in the open on a fallen log in bright sunlight. With the sun at my back, I looked down on him from about thirty feet away for as long as I wanted. It was apparently an immature bird, having incompletely developed wing bars, a weak eyeline, and a dingy brownish tone to the body plumage. The long tail with white patches was well seen, and the bird displayed the typical mockingbird postures that I had become familiar with in California and Maryland.

Because the quarry had been abandoned quite a few years ago it was rich in alders and some deciduous shrubs compared with the Canadian zone Sitka spruces and western hemlocks found everywhere else. I suspect the bird had wandered or been blown north from the California coast and chose this particular spot because of its deciduous vegetation, which was in striking contrast with the blanket of evergreens over the rest of the country. — JERRAM L. BROWN, *Ithaca, New York, February 6, 1953.*

BOOK REVIEWS

"Arizona and Its Bird Life." HERBERT BRANDT. The Bird Research Foundation, Cleveland, Ohio; 1951; xvi+724 pp., 42 pls. (20 col.), 1 map, 1 chart, and many fine line drawings. $15.00.

Adequately to review this monumental work on southwetsern ornithology would require far more space than I have available. This beautiful volume is one of the finest illustrated of bird books. The 20 outstanding full color plates of birds comprise nine by Allan Brooks; eight by Roger Tory Peterson; two by George Miksch Sutton; and one by T. M. Shortt.

While the book is remarkable for its elegant illustrations and the scholarliness of its narration, it is the several original contributions important to both ornithology and ecology that are to me its outstanding achievement. The author's logic in Chapter III alone, describing the life zones of southeastern Arizona, and unfolding a new concept, 'The Life Island Theory', attempting to prove that nature basically expresses hereslf through the individual, and that this individual, with its own mate, occupies its own islet, furnishes food for real thought.

A second contribution important to field practice is the list of 20 "Nature Truths" fundamental to orderly first hand study in the open. The author has also added a double-page schematic chart showing clearly the interrelationship of the principal plant and bird life to a highly complex landscape. This unique method in itself as a highly important addition to ecological clarity and should be used much in the future.

The author assigns 170 breeding birds, occurring in some 10,000 square miles of southeastern Arizona, into five life zones, six subzones and 24 biological associations. Brandt indicates that the nesting bird, because of the exacting food requirements for its offspring, is in many ways the most valuable of ecological indicators.

During his season afield in Arizona the author's studies resulted in the discovery of two forms of birds new to science. Also previously undescribed in ornithological literature are excellent accounts of the nests and eggs of the Apache Wren, Mexican Chickadee, Spotted Screech Owl, and apparently the Broad-billed Hummingbird. Furthermore, in this report, the life histories of many other birds are made better known.

This substantial work illustrates that scientific nature study can be presented in a clear, readable style. Doctor Brandt, who has traveled long and thoughtfully, sets forth his observations in a manner that renders them attractive, not only to the scientific ornithologist, but to all who are interested in our southwestern states. The author is an extremely accurate observer and has a very pleasing style of writing which makes "Arizona and Its Bird Life" a very profitable investment to all students of nature.

Congratulations are due not only to Herbert Brandt, but to his many cooperators in Arizona and elsewhere and to those who helped illustrate this handsome milestone contribution to ornithology.—*Stanley G. Jewett, Portland Oregon, December 28, 1952.*

REVIEW OF RECENT LITERATURE IN MAMMALOGY

JAMES, WM. B., and ERNEST S. BOOTH—*Biology and Life History of the Sagebrush Vole*. Walla Walla College Publications of Biological Sciences and the Biological Station Vol. I, No. 2 pp23—43 July 30, 1952.

This is a recounting of field and laboratory experiences with *Lagurus curtatus pauperrimus*. The study appears to be well organized and some valuable information is presented.

There does, however, appear to be a sad lack of ethics of publication that one expects in scientific articles of high caliber. In addition there are many errors of factual information that negate value of this work. A bibliography is listed under "Literature cited" but few citations are made in the text. The impression is given all the way through that the material presented is the work of Mr. James and Dr. Booth, when in reality much of it is a direct plagiarism from other authors, particularly from Johnson, Clanton and Girard (Murrelet 29:44-47 March 1, 1949).

Though a preliminary credit is given to Dr. C. W. Clanton, the outstanding authority on *Lagurus* in Washington State, much of his information is either misquoted or presented under the "we found" category by the authors. Submission of the manuscript to Dr. Clanton prior to publication would have been a courteous and very helpful gesture here.

The optimum habitat of the sagebrush vole is listed as high sagebrush, which is not correct. The statement "Plague is known to wipe out rodent populations, especially *Lagurus*", should be modified. The distribution map is good (though it gives the impression that James had collected more than Clanton); however, some locality records cannot easily be found on a map. The conclusion that the Hanford U. S. Atomic Energy Commission Reservation could be populated with Lagurus appears unwarranted as the elevation is generally below 1000 feet. Lincoln County does not contain the largest population of *Lagurus* in the State of Washington as stated in the text. A statement about California Department of Health research on *Lagurus* is an example of hearsay information and has no basis of fact.

The portion of the paper concerned with observations of captive mice are probably most important. Interesting data are presented but further inaccuracies mar the efficiency of the text. Dr. Clanton is misquoted in several statements; assumptions with poor basis of fact are made.

An error of arithmetic in litter size determination is present: A total figure of 1479 (instead of the stated 1779) embryos removed from pregnant mice, with an average of 5.26 (instead of 6.4) embyros per mouse is correct.

An otherwise good set of pictures of growth of *Lagurus* is marred by lack of standard technique: the five day mice are about one-half the size of the three day old mice. The statements of date of eye-opening are at variance with the good table that is presented.

It is unfortunate that it becomes necessary to point an accusing finger at authors of a scientific article. I am sure that the reasons for allowing such a paper to go to press is lack of thoroughness of preparation. I further believe that to allow such tactics to go unchallenged would be a disservice to the field of biologic literature as well as to Mr. James and Dr. Booth. I trust we shall see publications from both of these gentlemen in the future.—MURRAY L. JOHNSON, *Puget Sound Museum of Natural History, Tacoma, Wash., Mar. 14, 1953.*

RECENT ISSUES OF THE UNIVERSITY OF KANSAS PUBLICATIONS OF NATURAL HISTORY RELATING TO THE PACIFIC NORTHWEST.

HALL, E. R. *American Weasels* Vol. 4, pp 1—466 Dec. 27, 1951.

"American Weasels" by E. R. Hall is the culminations of years of research by Dr. Hall, best known for his careful work on the genus *Mustela*. This will be the standard reference book on weasels for many years. We consider this an outstanding work.

HALL, E. R. *A Synopsis of the North American Lagomorpha*. Vol. 5, No. 10 pp. 119—202 Dec. 15, 1951.

HALL, E. R. and E. LENDELL COCKRUM. *A Synopsis of the North American Microtine Rodents*. Vol 5, No. 27 pp. 373-478 Jan. 15, 195—.

Two synopsis are published, one on the Lagomorpha (conies and rabbits) the other on microtine rodents, including the general *Dicrostonyx* and *Lemmus*, *Synaptomys*, *Phenycomys*, *Clethrionomys*, *Lagurus*, and *Microtus*, *Ondatra* and *Neofiber*. These are extremely useful to the working mammalogist even though there is bound to be disagreement on many stated facts. Distribution maps are given for all subspecies; these will be a basis for further work on relationship and distribution. One major criticism is the listing of marginal locality records as a means of determining range. Frequently localities are listed that are not found on readily available maps. These are likely to be of little use.

SOCIETY MEETINGS

A regular meeting of the Pacific Northwest Bird & Mammal Society was held at 8 p. m. Sept. 27, 1952 in Room 108, Science Hall, Pacific Lutheran College, Parkland, Washington. This meeting had been preceded by a field trip during the day to various points of interest in Mt. Rainier National Park. This field trip was held jointly with the Tacoma Zoological Society.

The minutes of the previous meeting were read and accepted.

The following program was presented: Theo. Scheffer presented a paper entitled: *Damage to Forest Trees by Certain Mammals*, in which he illustrated types of damage caused by bears, mountain beaver, and gray squirrels.

Dr. A. V. Arlton, discussed and illustrated birds sounds by means of various gadgets.

Dr. Murray Johnson reported on success in summer mammal collecting.

Dr. Ernst Mayr of the American Museum of Natural History who is this fall guest lecturer at the University of Washington, spoke briefly on a revision soon to appear of his recent book. He also reported that a five volume handbook of North American Birds was now in the process of preparation, under the editorship of Dr. Palmer.

After discussion of various aspects of the several papers—the meeting adjourned for refreshments served by the Biology Department of the Pacific Lutheran College.—BURTON T. OSTENSON, *Secretary*.

The Pacific Northwest Bird & Mammal Society held a regular meeting at 2 P. M. Oct. 25, 1952 at the University of British Columbia, Vancouver, B.C. Members of the Vancouver Natural History Society were present as guests.

The minutes of the previous meeting were read and accepted.

The following program was presented: D. A. Munro of the Canadian Wildlife Service on *Recent Observations of Waterfowl Damage to Agricultural Crops*. He reported considerable damage to grain in the Prairie provinces by waterfowl, principally mallards and pintails. This damage was mainly to grain left in swaths when combining was interrupted by rains. Scarecrows, flashing squares of metal and firing off a gun showed good success in driving waterfowl from the fields.

D. F. Udvardy recently from Hungary and now of the Department of Zoology, U.B.C., spoke on *European Bird Stations*. He particularly spoke of observations being made on birds in migration at a number of lighthouses and other funnel points along the Baltic Sea.

Mary Jackson of the Department of Zoology, U.B.C. spoke on the *Barrows Goldeneye in British Columbia*. This species in British Columbia breeds almost exclusively in the interior, winters mostly along the coast and in Puget Sound. Last year 1200 were banded by chasing flightless birds into converging nets.

James Hatter of the British Columbia Game Department on *Some Aspects of Fire in the Ecology of the Moose*. Fire determines the moose carrying capacity in British Columbia because it sets back the forest succession to brush species which are in the 2½ to 7 foot winter browse range of the moose. Moose were largely absent from the southern half of British Columbia prior to 1850. Their numbers increased with logging and fires; but have decreased since 1945 with better fire protection.

Following the formal papers various notes and comments were made by the members and a visit was paid to the extensive vertebrate collection, Osteology Museum and Hide Collection of the University of British Columbia.

At the evening meeting Theed Pearse showed a number of illustrations of European birds.

Bud Faye of the Department of Zoology, U.B.C. showed striking color slides of a study in progress on the walrus mainly at St. Lawrence Island off Alaska.—BURTON T. OSTENSON, *Secretary*.

The Pacific Northwest Bird & Mammal Society held a regular meeting at 8 P. M. Jan. 17, 1953 at the Washington State Game Building in Seattle. Members of the Phi Sigma Society were present as guests.

The minutes of the previous meeting were read and accepted.

President Garrett Eddy announced the appointment of the following nominating committee:

Karl Kenyon, Chairman
Mrs. Martha Flahaut
Stanley Jewett.

The Society was invited to participate in the June 15-20 meetings of the Pacific Division, A.A.A.S. at Santa Barbara, Calif. An invitation was also presented to the A.A.A.S. Christmas meetings in 1954.

The following were elected to membership: James W. Brooks, John L. Buckley, Robert A. Hinman, Dr. Brina Kessel, all of the University of Alaska; Mrs. J. J. Colwell of Seattle, Mahlon Kriebel of Garfield, Wash., Walter Roth of Tacoma and Richard E. Phillips of Bellingham and Corvallis.

The following program was presented: Coleman Newman of the National Parks Service on *The Olympic Elk* described the early records and explorations of the Olympic Peninsula. He concluded from past and present observations about 30 to 40% of the elk go to high country in summer.

Reade Brown of the Washington Game Dept. on *Elk Tag Returns* reported that 508 elk were tagged from the Yakima herd. The returns indicated no great movement of the elk—38% were within 5 miles of the trap, 34% between 5 and 10 miles away, 22%

between 10 and 15 miles away.

Fred Zwickel of the Washington Game Dept. on the *Movement of Blacktail Deer* reported on results of tagging 639 fawns at Clements Tree Farm. 58 tag returns indicated little movement, 81% were killed less than one mile from point of tagging. Supplementary sight observations by plastic discs in the ears gave added information. One buck moved 19 miles in midsummer. A doe repeatedly returned six miles to a specific farm garden.

Lloyd Beebe of Sequim showed about 45 minutes of color movies of wildlife of the Olympics. Extensive pictures of the cougar were especially interesting.

Following the program, the Society enjoyed coffee and cookies provided by the Washington Game Department. — BURTON T. OSTENSON, *Secretary*

The Pacific Northwest Bird & Mammal Society held a regular meeting at the Natural History Museum of Oregon State College, Corvallis, Oregon, at 9 A.M. Saturday, February 7, 1953.

The following program was presented: James Ford spoke on *Mammals of Upper Oak Creek*. A habitat study near Corvallis. Mammals taken included *Peromyscus maniculatus*, *Microtus oregonus* and three species of *Sorex*.

Philip Dumas on *Full Moon Observations of Migrating Birds* described this method of night observations against the full moon by use of telescope.

Mildred Ericson spoke on *Effects of the Hydrothermal Areas of Yellowstone Park on Birds and Mammals*. Animals made some use of the warmth of the hot springs. Some places acted as death traps. Carbon dioxide accumulated around a pool causing death to several small birds and a few mammals which in turn were regularly eaten by coyotes patrolling the area.

A color movie of the Birds of Woody Island, Montana, was shown.

Luncheon was served for the Society and guests at the Memorial Union Tea Room.

In the afternoon the Society convened at 2 o'clock.

The minutes of the previous meeting were read and accepted. Robert Rausch of the U. S. Public Health Service, Anchorage, Alaska, was elected to membership.

Dr. Kenneth Gordon in *Problems in Conservation* presented an outline of suggested materials to cover in a conservation course. He emphasized the human factor involved in many conservation problems and described conservation as the application to the land of many fields of knowledge, through people, in the framework of democracy for wise use and perpetuation of several values.

Movies on Wildlife in the Aleutians and Malheur Refuge, *The Valley of the Blitzen*, concluded the program.—BURTON T. OSTENSON, *Secretary*.

The Pacific Northwest Bird and Mammal Society held a regular meeting in Howarth Hall, College of Puget Sound, Tacoma, at 8 P. M. Saturday, March 14, 1953.

The minutes of the previous meeting were read and accepted.

The following were voted to membership:
Dr. William G. Baldwin, Quincy, Washington.
James F. Ford, Corvallis, Oregon
Prescott Oakes, Seattle, Washington
Robert J. Scott, Tacoma, Washington

The resignation of Dr. Hartley H. T. Jackson was accepted with regrets.

Mrs. Martha Flahaut presented the report of the nominating committee as follows:
President—Garrett Eddy
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Vice President for British Columbia—R. York Edwards
Vice President for the Inland Region—Thomas Burleigh
Vice President for Oregon — Jane C. Dirks-Edmunds
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Karl W. Kenyon (Chairman)
Martha R. Flahaut
Stanley G. Jewett

Mr. J. W. Winson and Dr. Walter P. Taylor were nominated for Honorary Life Membership.

Dr. Murray L. Johnson commented critically on a number of recent papers pertaining to mammals of the Northwest.

Dr. Gordon D. Alcorn commented on the great diversity of terms used by various authors to describe relative abundance of birds.

Recordings of bird songs from the Albert R. Rand Library at Cornell loaned by Dr. Robert Cushman Murphy, Jr. were analyzed by playing at slowed speeds.

Samples of European bird songs were heard from Danish recordings loaned by Miss Elizabeth Curtis.—BURTON T. OSTENSON, *Secretary*.

THE MURRELET

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